10-23
May, 1929)

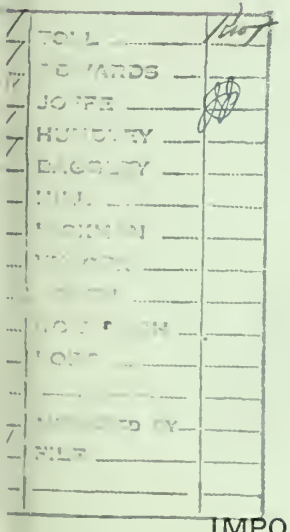
UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
YELLOWSTONE NATIONAL PARK

FILE NO.

MONTHLY REPORT

February, 1931

FEBRUARY, 1931.



IMPORTANT

This file constitutes a part of the official records of the National Park Service and should not be separated or papers withdrawn without express authority of the official in charge. All Files should be returned promptly to the File Room. Officials and employees will be held responsible for failure to observe these rules, which are necessary to protect the integrity of the official records.

HORACE M. ALBRIGHT,
Director.

U. S. GOVERNMENT PRINTING OFFICE: 1929 6—7410

March 5, 1931.

The Director,
National Park Service,
Washington, D. C.

Dear Mr. Director:

Following is a report of the activities of the Yellowstone National Park for the month of February 1931:

000 - General

The weather again was the topic of conversation during the month, with old-timers declaring that the park had never before experienced such a mild winter. Very little snow fell and no zero temperatures were recorded at Mammoth. Even in the interior of the park little snow fell and the average snow depths are considerably below normal. A woodchuck was observed at the Lake on the 23rd, which is about a month earlier than this animal usually makes his appearance in this locality.

The road to the buffalo ranch was open until the 26th when the snowfall of the previous night made travel impassable at a few points. On the fifth of the month a car went from West Yellowstone to Old Faithful and all during the winter it has been possible to run cars around the streets of West Yellowstone, which is most unusual. The road from Ashton to West Yellowstone was open part of the month and the road between Gardiner and Livingston was never in better condition. Local people took advantage of the fine condition of the highways to make trips out of the park over Sundays.

Weather Conditions at Mammoth Hot Springs

The following report on weather conditions is submitted by W. T. Lathrop, Meteorologist of the U. S. Weather Bureau:

Not many months go by without equalling or breaking, or at least approaching, some weather record at the local station, a fact that appears not to have been recognized by many persons accustomed to thinking of the

Boise 9, Idaho.

The Director,
National Park Service,
Washington, D. C.

Dear Sir or Madam:

Following is a report of the activities of the Yellowstone National Park for the month of February 1941:

CCC - Camps

The weather early was the basis of conversation during the month, with oil-burner devotees and the petrified water hounds getting their full share. They little care that we may temporarily lose ourselves in blizzards. Even in the interior of the Park little snow fell and the trails were dryish and comfortably below normal. A one-inch fall was observed late on the 22nd, which is about all that could be called the precursor of the big blizzard.

The road to the Norris Basin was open until the 20th when the snowfall of the preceding week began drifting badly in the Gibbon Meadows. On the 21st of the month a car went from Old Faithful to the Canyon, but all during the winter it has been necessary to run plow equipment to keep the road open. Tourist travel has been very light, with 14 cars entering. The road from Canyon to Tower Junction was open part of the month and the road between Tower Junction and Lamar is being maintained. Local people have been using the Lamar Valley road almost to the Park line.

Trapping Conditions and Damage by Animals

The following report on trapping conditions is submitted by C. [illegible], Superintendent of the U. S. Fish and Game Service:

Fur were scarce in the Park this winter, a fact due to the lack of snow. Only a few coyotes were trapped by Park personnel, and the [illegible]

period of record breaking in weather as of the indefinite past, instead as of as still current. In January, for instance, a new record was established in temperature when the minimum for the month dropped no lower than 2 degrees above zero. The monthly mean temperature, more than 5 degrees above normal, was the third highest in the record. The total precipitation was less than ever before recorded for the month, and the total for December and January together has been exceeded in every other winter of record. With so little snow falling since November, the impression of old-timers seems to be that there has never previously been a considerable snow cover of such persistence as has marked that of this winter.

The February mean temperature averaged 5.5 degrees per day above normal, the actual mean temperature being 25.2 degrees — not remarkable for the month. Generally mild as the weather seemed, that figure has been equalled twice and exceeded no less than eight times, including last year, when the highest February mean temperature was equalled. In temperature records running back to 1887, the month just past was the seventh in which the thermometer failed at any time to fall as low as zero. The lowest temperature recorded in February, 1931, was 1.7; this was on the 8th. The highest for the month was 45 degrees, on the 4th. On only six days of the month was the maximum temperature lower than 32.0 degrees. December 19, 1930, was the last date upon which a temperature as low as zero was recorded at this station. Never before, within the period of record, have January and February both elapsed without the temperature falling to or below zero. The average temperature of January and February, 1931, together, was 24.0 degrees. With one exception this is the highest average for the two months. In 1896 they averaged 25.4.

Precipitation was all in the form of snow, which when melted amounted to a total of 0.25 inch for the month. There has never been less in February in the years covered by records, but the same amount was recorded in 1903. It was pointed out last month that the total for the two months, December and January, was the least on record. As no less was ever recorded for the month of February, we may now note that the total for the three months sets a new record for deficiency. In February the greatest amount for any 24 consecutive hours was but 0.10 inch, on the 25th and 26th, the result of a snowfall of 2.5 inches. The month's total snowfall was 8.1 inches. There has often been less snowfall, but the average amount for February is 14 inches. The remarkably durable snow cover persisted. At the close of January the average depth of snow on the ground was 9.1 inches; at the close of February, 7.1 inches. Precipitation amounting to .01 or more occurred on eight days of the month, and amounts less than .01 inch were noted on eight days.

Snow Depths: Snow depths at various places throughout the park as compared with depths in 1929 and 1930 are as follows:

((

	1929	1930	1931
Buffalo Ranch	22	7	14
Cooke	30	33	38
Soda Butte	24	15	19
Tower Falls	20	10	18
Old Faithful	40	32	14
Lake	36	33	15
Thorofare	50	45	
Hellroaring	20	9	8
Norris	34	27	15
Canyon	46	40	17
Thumb	36	33	
Riverside	33	30	16
Gallatin	22	35	21
Sylvan Pass	34	30	10
Snake River	57	41	28
Bechler River	81	46	32
Upper Slough Creek	40	20	17
Lower Slough Creek			16
Cabin Creek	36	34	
Mountain Creek	42	40	
Fox Creek	50	50	
Two Ocean Plateau	72	73	
Aster Creek	60	70	32
Continental Divide	80	76	
Cascade Creek	100	70	43
Pelican Creek	45	40	18
Mist Creek	60	60	24
Cold Creek	42	36	15
Six M.P., Snake River		76	34
Park Point			15
Sportsman Lake			34
Grayling			23
Daly Creek			28
Madison Junction			14

Digitized by the Internet Archive
in 2013

http://archive.org/details/superintendfebua001931

Superintendent Toll remained in Denver most of the month looking after matters in connection with proposed parks and monuments but on February 21st left for an inspection trip of the Death Valley area in California.

Assistant Superintendent Edwards was in the park during the entire month, with the exception of the time consumed in making trips to Livingston and Bozeman in connection with land matters.

100 - Administration

110 - Status of Work

Work in all departments is in fine condition. Two vacancies which existed in the clerical force were filled through the appointments of Miss Miriam J. Horkan, by transfer from the Biological Survey, and Miss Mary Markham, who previously filled a temporary clerical position here. The addition of these two employees should increase the efficiency of our organization. Considerable progress has been made in the pasting of photographs into the albums and when this work is completed the park will have a photographic record of its features, buildings, animals, improvements, etc., that should prove exceedingly valuable in future years.

Disbursing Clerk Leroy Hill left for the west coast on February 9, to be gone for two months or more. Mr. Hill's health has been poor and he is making the trip at the doctor's orders.

120 - Park Inspections By:

121 - Acting Superintendent

Acting Superintendent Edwards spent the entire month in the park, with the exception of the time consumed in several trips to Livingston and Bozeman on land matters affecting the park wild life. Trips were made on the Tower Falls road to observe snow and game conditions and on the 17th, in company with Assistant to the Superintendent Joffe and Chief Ranger Baggley, a visit was made to the Slough Creek ranches to observe the feeding of elk. Several hundred elk were seen on the feeding grounds. The trip was made by car as far as the Slough Creek mail box and from there on by sleigh.

Trips were made to Livingston on the 6th, 9th, 10th, 13th and 18th to consummate matters in connection with the purchase of lands north of the park for the elk, and, on the 19th, with Chief Ranger Baggley and Mr. Rush, he attended a meeting in Bozeman with Forest Service officials in connection with the same subject. While in Bozeman on February 23, over Washington's Birthday, Mr. Joffe, Mr. Miller and Mr. Edwards attended the Kiwanis meeting and succeeded in making a number of new acquaintances.

140 - Labor Situation

While no employees are being put on our rolls, from applications being received in the park it is evident that there is going to be a surplus of help available this summer. The unemployment situation throughout the country is being reflected in the applications received here. While there will be fewer vacancies in our organization, due to the desire of old men to return to their positions, we are receiving far more applications than in former years. On one day, February 23, 186 pieces of mail were received at the office, included among which were 88 applications. We have received several hundred applications for about 15 ranger vacancies and in view of the large number of applications being received for these positions we have already made our selection of the 1931 force, a month or six weeks earlier than usual.

We sent out during the month 431 form letters referring applicants to the public operators for employment and the Yellowstone Park Lodge and Camps Company advise us that they had 10,000 formal application blanks printed for employment with their company and by the middle of February had sent out more than 8,000 of these. There is going to be a great deal of disappointment this summer for people who insist on coming to the park expecting to find work here as there are not nearly enough jobs to go around.

160 - Status of Alienated Lands

Mr. Harry Ade, of the U. S. Forest Service at Missoula, who has been handling land matters in connection with the northern elk herd, came to the park on February 2 and during his stay arranged for the purchase of three properties north of Gardiner which were listed in the priority area. These are the Stoll, Sidebotham and Parker properties. The sales were consummated and the deeds recorded before the end of the month. The purchase prices of these properties were as follows: Stoll, $5,750; Sidebotham, $4,600; Parker, $6,500.

170 - Plans, maps and surveys

No work done on maps this month but considerable work was done on revising map files. See report under "800."

180 - Circulars, Bulletins, etc.

Circular No. 1 was issued during the month and two memoranda for the press were released; also, the February Nature Notes were distributed. Copies of these are attached hereto. An effort was made to obtain a larger distribution of the articles in our Nature Notes and the cooperation of several magazines was solicited. We hope to be able to find a new media for getting our Notes before the public and thus interest a larger number of people in the parks and nature. On account of limited facilities we cannot permit our mailing list to become much larger than it is at present but we feel that a vast number of people would be interested in reading the Notes if they could obtain them. We would like particularly to see them receive a wider distribution in schools and libraries.

200 - Maintenance, Improvements and New Construction

Activities in the Engineering Department were confined to the office routine entirely, the principal work being revision of the map files. Two "Cello Clip" map files have been installed, and all maps and drawings have been transferred to these from the old home-made draw files. About 1500 sheets have been transferred to these files.

Outside work in the way of maintenance consisted of snow removal in and about headquarters and the cleaning of periodic slides on the Gardiner Canyon Road.

220 - Improvements

Carpenter Shop: The work of this department consisted mostly of miscellaneous repairs and maintenance of buildings at Mammoth, and remodeling of messhouse.

Paint Shop: The Foreman Painter was engaged in miscellaneous work in buildings at headquarters, and some work was done in painting in the mess house which is being remodeled.

Electrical Department: The work of this department consisted of general maintenance, such as cleaning electrical hot water heaters, and making repairs to telephones in shop. Other work consisted of writing up estimates and making construction reports on work done during the last few years.

Sanitation Department: The following work was done by this department during the month: Maintenance of Mammoth water and sewer systems; operating 8 heating plants at headquarters; miscellaneous repair work on water heaters, faucets, and radiators in different quarters at Mammoth. All fire equipment was inspected during the month.

300 - Activities of Other Agencies in the Park

Mr. George Whittaker operated his store at Mammoth to accommodate local residents and spent the entire month in this vicinity.

312 - Cooperation or lack of cooperation with superintendent

On February 25 we received an order from Washington to discontinue the sale of gasoline to park employees from our commissary. This action resulted in our making an arrangement with Mr. Whittaker for him to sell us gasoline, groceries and other commodities at a reduced rate and the members of the community, at a meeting held on the evening of the 26th, favored giving the bulk of their business to Mr. Whittaker. It was clearly understood that the meeting was not an official one but merely a gathering of the individual members of the community to discuss matters affecting them. It is believed that a very satisfactory arrangement has been perfected, which will be of mutual benefit to Mr. Whittaker and members of the community. Mr. Whittaker is to be complimented on the fine manner in which he received the proposition, and an offer from him to have his truck deliver meat, laundry, etc., from Gardiner for our residents here, permitting our taking off our market truck, will result in the saving of several hundred dollars each year to the Government. Our people have resented the interference of outside interests in bringing pressure to bear to deprive us of the privileges granted under Section 1 of S 195, "An Act To Facilitate the Administration of the National Parks."

313 - Schedules of Rates

By the end of February all rates of the public operators in the park for the 1931 season received the approval of the department and there will be very little change over the rates in effect during 1930.

315 - New Contracts

On January 14, 1931, the Department approved a new contract for the Hamilton Stores, Inc., covering the establishment, maintenance and operation of a general store and curio business in the park for a period of twenty years. This new contract supersedes the former contract granted to Mr. C. A. Hamilton under date of March 31, 1923, covering a period of ten years.

316 - Modification of existing contracts

Notice has been received that during the operators' conference in Washington last December an agreement was entered into by the operators in the Yellowstone providing for the establishment of the preferential right privilege policy in merchandising in the park.

As we have found it necessary to expand the summer mess house, arrangements have been worked out with the Mountain States Telephone & Telegraph Company, which company operates long distance service in the park, for them to occupy different quarters. The new quarters are in the same building they for-

merly occupied. The new arrangement will give us a much more suitable mess house and the Telephone Company is very well satisfied with the new quarters which it has been assigned.

330 - Donations and accessions of all kinds

Mr. William C. Gregg, of Hackensack, N. J., conservationist and park friend, presented the Yellowstone Museum with an elk hide with Indian paintings. The hide reached the park in excellent condition, and will be exhibited in one of the museums this summer. This donation should prove of great interest to park visitors and is truly a remarkable piece of work. It is doubtful if it could be duplicated today.

Miss Ruth B. Moran, of Long Island, N.Y., daughter of Thomas B. Moran, famous painter and a member of the early Hayden Survey parties into the park, presented the park with two charcoal drawings by her father. As these drawings are more appropriate for the Grand Teton National Park we expect to later transfer them to that park.

nearly executed. The new arrangement will give us a much more suitable room layout and the telephone company is very well satisfied with the way matters will have been arranged.

ICO - Depletion of commercial oil fields

Mr. William C. Cowie, of Bodenmark & Co., conservationist and rock friend, presented the Library Museum with an oil hole with fossils pertaining. The hole reached the gas in commercial quantities, and will be exhibited in one of the museum display cases. This donation should prove of great interest to park visitors and is truly a memorable piece or rock. It is doubtful if it could be duplicated again.

Miss Ruth B. Moore, of Long Island, N.Y., daughter of Judge B. Moore, recently retired and a member of the Acadia Nature Society presented this park with two editorial drawings by Jay Darling. Is these days some more appropriate for the Canadian National Park to appeal to Mister Average Man to visit parks.

400 - Flora, fauna and natural phenomena

410 - Ranger, Naturalist and Guide Service

Winter conditions remain practically the same as last month with a very light snowfall which had tendencies to make very poor skiing for the rangers. However, the usual patrols for the protection and observation of the wild life were made. All weather and stream gauging reports have been submitted from this office.

Acting Superintendent Edwards and Chief Ranger Baggley were in Livingston on February 6, checking records and abstracts for the northern elk range land purchases. They returned to Mammoth the same day. The next morning, in company with Harry Ade, they were in Gardiner for the same reason. Chief Ranger Baggley drove to the Buffalo Ranch on February 10 for the inspection of animals and operations. At that time the Chief Ranger drove his auto 4 miles beyond the Buffalo Ranch through the fields and feed lots where the buffalo are being fed. This is indeed very unusual as even during the summer time it is an impossibility to drive a car over this area. Acting Superintendent Edwards, Chief Ranger Baggley and William Rush were in Livingston on the 13th, closing up the land purchase for the northern elk herd, and they returned to headquarters the same day. On the 17th Mr. Edwards, Mr. Joffe and Mr. Baggley drove to Slough Creek on inspection of the elk feeding operations carried on at that place. They returned to Mammoth the same day. A conference on management plan for the northern elk herd was held in the Forest Supervisor's Office at Bozeman on February 19. Mr. Edwards and Mr. Baggley attended this meeting and left headquarters on the evening of February 18, returning the evening of the 19th. The monthly game census was taken by rangers on February 24 and 25. Mr. Baggley and Mr. Wiggins, on the afternoon of the 27th, made a fire inspection trip through a portion of the buildings in Mammoth.

Road Conditions: The road from Livingston to Gardiner was in good condition the entire month which naturally invited a great deal of week end travel through the north entrance. The West Yellowstone-Ashton road was open most of the month. It was necessary, on the 23rd, for the Idaho Road Commission to run their snow plow through this section. The West Yellowstone-Old Faithful road was closed to travel on the 17th but the latter part of the month the winterkeeper at Old Faithful was able to drive as far as Madison Junction but from there on toward West Yellowstone and Norris the road was closed. The road from Cody to the Sylvan Pass ranger station remains open with only 10 inches of snow on the ground at Sylvan Pass.

420 - Museum Service:

Nature Notes were completed and franked on February 20. The mailing list has been completely revised during the month. Work has gone ahead rapidly on the photographic project, although there still remains a vast

400 - Clays, Fuels and Mineral Industries

410 - Clays, Refractories and Coke Ovens

Mining conditions usually specifically the mine is not ready with a very high overall with but sometimes to make room for mining for the coupons. However, the usual period for the processing and sale of the fire bricks. It usually is for those clayline reports have been published from this office.

Coking and structural burning and Coke Ovens deeply mine is [illegible] on records), drawings and specifications for the various fuel problems. They referred to Research the year end. the most mention, in coming with Barry Ib, the mine is [illegible] for the year ended. Other things handled there in the Buffalo Branch at Toronto is for the inspection of mines and operations. It is not [illegible] Cooper Brook Fire Clay Co. still keeps the Buffalo Fire Brick Co. had four kilns when the Buffalo mine [illegible]. This is indeed very unusual as even during the summer time it is an impossibility to fire a kiln over this area. During September [illegible], Mines Engineer [illegible] kilns that were in existence at the time, burning on the [illegible] for the purposes all used, and they reported to Headquarters [illegible] on May 10. On the 17th to. Thereby, Mr. Barry and Mr. Tingley came to Toronto [illegible] an inspection of the six Coke Oven plants operated by the Dominion Steel [illegible] returned to Toronto the same day. A conference in connection with the [illegible] was held in the Parker Engineering Office on Tuesday, October 19. Mr. Edwards and Mr. Tingley attended this meeting and left headquarters on the evening of Tuesday, returning to Sydney [illegible] the same day. Mr. Tingley, on the afternoon of the 20th, made a [illegible] to this branch a portion of his holiday at Bancroft.

Coal Conditions: The coal [illegible] conditions [illegible] coal [illegible] [illegible] Barrel Branch the [illegible] [illegible] [illegible]

quantity of work before it will be completed. Twelve publications, including periodicals, reprints and books, have been received for the library. Four valuable accessions were made, the most important being a painted elk hide donated to the Yellowstone Museums by Wm. C. Gregg. Some labels have been written for the cases in the Fishing Bridge Museum, and work is going ahead on the cases for that building. Twenty-seven applications have been received for ranger naturalist employment and soon after March 15th work will start on the selection of men for the 1931 staff. The Park Naturalist has been on duty the entire month. Two weeks of it were spent on a trip around the loop on skiis. The museum caretaker has been on duty during the entire month, and 124 hours of stenographic assistance has been assigned to the office, which enabled the routine work to be kept up during the absence of the Park Naturalist, as well as going ahead with work on pictures.

440 - Insect Control

Fred T. Johnston, Park Ranger in charge of forestry, on the orders of Chief Ranger Baggley, left headquarters by skiis on the night of February 4 for Bechler River. His trip was authorized due to the necessity of making an investigation of the mountain pine beetle situation in the Bechler River District. Mr. Johnston returned to headquarters on February 27. The following is a report written up by Mr. Johnston regarding the infestation in this district:

"First indications that the mountain pine beetle were working into the Bechler region from the infested Targhee Forest were discovered by Park Ranger A. T. Bicknell in October, 1930. The discovery of a group of ten infested trees inside the park boundary near Rock Creek and the same number on Wyoming Creek were evidences that the outskirts of the epidemic had reached the park. Control measures were immediately outlined, and Rangers Bicknell and Yetter were assigned to make a preliminary survey of the Bechler region to determine the extent of the infestation.

Preliminary Survey

The preliminary survey was made with the object of collecting sufficient data upon which to base our working units, and necessary equipment.

Approximately fourteen sections, or 8960 acres, bounded by the west boundary, south boundary, ~~Tower Falls~~ Falls River and Bechler River were surveyed on a 5% basis. This area which comprises the southwest corner of the park is apparently in a direct path of two separate infestations outside of the park - one on Falls River and the other two miles north on the west boundary. The method used in making the survey was by running strip lines with a compass from the west boundary to Falls River at 20 chain intervals. The trees on each side of the strip line were examined to a distance of one-half to one chain, making the strip lines average one and one-half chains in width. All infested trees found were examined and located on a field map which was used by the surveyors for that purpose. On the area covered by the preliminary survey approximately 55 infested trees were located, including several that were apparently pitched out.

The results of the preliminary survey with regard to outlining working units indicate that the west boundary, starting from the southwest corner of the park and extending inside the park boundary one and one-half miles and extending north six miles, presents our most serious control problem. The area next in importance upon which control measures should be exerted is a strip one-half mile wide on each side of Wyoming Creek from the south boundary to the head of Wyoming Creek.

In February, 1931, following the completion of the preliminary survey, two weeks were spent by Rangers F. T. Johnston, Bicknell and Yetter in examination of the located infested areas, and in outlining working units, as follows:

-12-

Rock Creek Unit: This unit covers approximately five sections, and is bounded by the west and south boundaries of the park - Robinson Creek Trail and Robinson Creek. It is believed that this unit is the most dangerous as 40 new attacked trees were located here by the preliminary survey. This unit should be worked first, and as an estimate we may expect to find from four to six hundred infested trees. The unit is accessible by car to the park boundary on Rock Creek where there is a good camp site.

Robinson Creek Unit: The timber on this area is mostly overmature and in ideal condition for beetle infestation. Four new attacked trees were located here but only a small percentage of the unit was inspected. The unit is a continuation of the Rock Creek Unit and should be worked second. Probably two to three hundred infested trees as an estimate would be found here. A camp site on the forest reserve outside the unit is accessible by wagon, and by pack horse the unit is accessible from Bechler Ranger Station. The unit covers approximately two sections and is bounded by the west boundary and the extreme edges of the mature stand of timber found on Robinson Creek.

Wyoming Creek Unit: Approximately 3-1/2 sections is covered by this unit which should be worked third as the character of timber, nature of attacks, etc., do not present as serious an aspect as the other two units. The attacks on this area seem to be coming from the epidemic south of the park on the forest reserve. Six new attacks were located but we could expect to find probably two to three hundred, it is estimated. The unit is bounded by a N. & S. line 1/2 mile east of Wyoming Creek, running N. to the Bechler meadow road. An east and west line running to Robinson Creek trail here marks the North boundary. Robinson Creek trail and the Bechler Ranger Station road mark the east boundary. Several good camp sites are accessible on the unit by car.

The units are outlined so that the most dangerous areas may be worked in order, leaving definite boundaries for future work, and covering what appears to be the maximum acreage workable during one burning season."

450 - Animal Disease Control

Three deer fawn were trapped on February 6 and doped with kamalo for the killing of tapeworms. These three, with the three treated in January, as noted in the January report, are now in excellent condition, and a marked improvement was noted in them about a week after they were treated. The eye infection of the Mammoth deer remains the same as last month but this infection is not considered very serious. One mountain sheep, a ewe, which had been hit and killed by a car in the Gardiner Canyon, was taken by William Rush for experiments in animal disease control. This one sheep was noted to have had the scabies.

460 - Birds

The common winter birds of Yellowstone are prevalent over the entire park, including finch, red bull, chickadee, water ouzel, jays, ravens and crows. There are 35 whistling swans wintering on the open water on Yellowstone Lake. Several species of water fowl are noted on the open waters in the southern district, and the usual numbers are wintering on the Madison River.

470 - Animals

Due to the prevailing weather conditions with the light snowfall all animals in the park are noted to be in good condition. This light snowfall which makes very good forage conditions has been a great help in maintaining our game herds with out a large winter kill thus far. However, these conditions are very detrimental in making a good elk count as has been the case for the past two months.

Elk: The elk count as taken on the 24th and 25th shows very plainly that the northern elk herd is spread over the entire northern area of Yellowstone Park and it is an impossibility to obtain a good count. After three weeks of spreading hay at the catching corrals we have been unable to entice the elk into our trapping pens with the result that on February 27 letters of regret had to be written to parties who had requested elk, notifying them of this condition. The feeding of elk was stopped at the Upper Slough Creek Ranch on the 22nd, the hay having run out on that ranch. There were 725 elk on the feed grounds at Lower Slough Creek on the 25th. The following table shows the elk count by districts as taken by the ranger force on the 24th and 25th:

Mammoth and vicinity	329
Tower Falls and vicinity	289
Hellroaring to Cottonwood Creek	407
Cooke to Lamar Canyon	314
High Bridge to Blacktail	207
Gardiner and vicinity, inside park	117
Eagle Creek and bench lands	8
Game Preservation Ranch	165
Mammoth to Blacktail, via coal mine	388
Crevice Basin	25
Bechler River	46
Lower Slough Creek	725
Upper Slough Creek	255
West Yellowstone to Madison Junction	27
Fountain Flats	31
Bakers Hole	1
Hellroaring to Lower Slough Creek	574
Mammoth to Norris	57
Dunraven Pass	28
Gallatin	390
Teepee Creek outside park	400
Pelican Meadows	1
Total	4764

Company rec's policy	349
Corner fills and vicinity	200
Multi-seating to different views	177
Opera in Lenin Square	134
Opera-in-the-round	327
Opening of Theatre, Inaugural gala	177
Opera Park and Beach Hotels	5
Opera Passenger Line	120
Opposite to Bluebell, the main lobby	200
Operas in Russian	43
Operas in Slavic	44
Organ Study Trust	240
Organ Service Club	240
Organization to Perform Overture	35
Overture Plate	81
Ushers Pair	1
Performing in Opera House Square	274
Pigeons in Lenin Square	47
Pioneer Zone	23
Pitfalls	200
Playing Opera Opening Night	200
Pyrimon Theatre	7
Quad	274

Deer: This count was taken in connection with the elk count on the 24th and 25th. The actual count this month of 706, as compared with 260 for the same month last year, is indeed a very promising outlook on our game situation. This large count is no doubt due to the excellent weather conditions, which usually occurs two months later than this. A few deer were seen in the Cody Canyon but not nearly as many as usual due to the light snowfall in that region. The following table shows the number of deer by districts:

Tower Falls and vicinity	26
Mammoth and vicinity	85
Hellroaring and vicinity	42
High Bridge to Blacktail	28
Gardiner and vicinity	27
Eagle Creek bench lands	19
West side Reese Creek	48
Reese Creek Ridge	152
Hill Ranch	43
Game Preservation Ranch	175
Mammoth to Blacktail via coal mine	17
Crevice Basin	28
Old Faithful	16
Total	706

Moose: There is nothing of interest to report on these animals this month. However, it should be noted here that it will be an impossibility for us to obtain a count on these animals should weather conditions remain the same as they are.

Antelope: The antelope count was also taken at the same time as the elk count, and is very good. The forage conditions and the condition of the antelope was noted to be excellent. The total count this month is 646. The same month last year it was 510. The estimated total number of antelope in Yellowstone Park last year was 650. With this count of 646 it is very doubtful whether we shall give an estimate as we do not believe that any of these animals were missed on this count. The following table will give the antelope count by districts:

Vicinity of Mammoth	12
Gardiner and vicinity, inside park	94
Game Preservation Ranch	332
Mammoth to Blacktail via coal mine	208
Total.....	646

Sheep: On February 2nd a count in the Gardiner District discloses a total of 26 of these animals in the vicinity of Black Butte. The latter part of the month 24 were seen on Specimen Ridge. These animals were seen from the

[illegible] Main count the table in descending size. Do a 3% count of the [illegible]. The method would [illegible] of 7%, or approximately 250 for the base count [illegible] 3 takes very [illegible] operations on our [illegible]. This leaves enough to do both do to the [illegible] vertical [illegible], using quadruply nested [illegible] loops total. [illegible] many [illegible] in the [illegible] tests are [illegible] by [illegible] [illegible] [illegible]

Buffalo Ranch, and at this time of the year it is a very unusual sight. Only 5 sheep remain in the vicinity of Tower Falls and without doubt we believe that some of these animals are the same as were seen from the Buffalo Ranch. During the elk count 20 sheep were counted on Mt. Everts. The rangers on their monthly patrol from Mammoth to Lake came by way of Tower Falls, traveling through Dunraven Pass, and while on this trip they counted 8 mountain sheep on Mt. Washburn. One sheep, which was noted under 450-Animal Disease Control, was hit and killed by a car in the Gardiner Canyon early in the month.

Buffalo, Lamar River Herd: During this month a total of 119½ tons of hay and 12,100# of cottonseed cake were fed to the buffalo at the Buffalo Ranch. On the 20th of the month there were only 200 animals on the feed grounds, the rest having drifted up the Lamar River. However, the latter part of the month most of these animals had drifted back to the feed grounds and over 500 were counted on the Ranch at this time. All animals are noted to be in good condition, with the exception of one calf which has died.

Buffalo, Cold Creek-Pelican-Creek Herd: No buffalo were seen on the Pelican Meadows this month but signs of about 10 were seen on the Mist Creek meadows.

Smaller Animals: Beaver are noted to be plentiful in the Bechler River region on Boundary Creek, where 22 dragways were counted in 1 mile. These beavers are using willows for food, which is to be noted as a very unusual occurrence as usually at this time the willows are covered by several feet of snow in this region. Snowshoe rabbits and marten signs are numerous over the entire park. The otter which are usually seen and observed in the vicinity of the Lake Ranger Station and hotel were not seen this month but signs indicate that these animals are still in that vicinity.

Predatory Animals: Nine coyotes were killed this month, which makes a total of 75 killed for the year. The sale of coyote hides was held on the 20th, Beekman Bros. of Great Falls, Montana, being the successful bidder on both the Government and private hides. The Government hides were sold on bid for $9.47 each and the private hides sold for $10.64 each. Due to the open bidding on the private hides it was possible to obtain this extra high price for the private hides.

Buffalo and Other Ranch Activities: The activities at the Buffalo Ranch, Slough Creek Ranches and Game Preservation Ranch consisted mainly of the feeding of wild animals. All the hay on the Upper Slough Creek Ranch was fed out on February 22, and feeding is being carried on at the Lower Slough Creek Ranch for the entire number of elk in that region, namely 725. The upper hay stacks on the Buffalo Ranch are entirely used up and feeding is being carried on in the lower section of this ranch. The antelope are being fed on the Game Preservation Ranch every few days, as daily feeding is not deemed necessary due to the excellent forage conditions.

480 - Natural Phenomena - Mammoth

No unusual activity was noted on Mammoth Hot Springs during the month of February. There has been a slight increase in flow, possibly due to

the prevailing warm weather and the resulting water from melting snows. New Highland remained unchanged and Angel Terrace seems to have undergone a slight increase during February. White Elephant Back Terrace remains unchanged. Blue Springs, which had decreased considerably when the last report was made have begun to slowly renew their former activity. Orange Spring Mound is unchanged. The new vent at Narrow Gauge Terrace, although increasing slightly, has not made such noticeable enlargements as in January. Hymen Terrace, unchanged during the month of January, increased to a slight degree in February.

490 - Miscellaneous

Fish: The fish in the Mammoth rearing ponds are feeding well with very slight loss. Eighty pounds of fresh sheep livers are fed each week.

500 - Use of Park Facilities by the Public

540 - Visitors

Paul J. Fair, official photographer for the Montana Fish & Game Commission, visited the park during the month, entering on the 11th and remaining until the 23rd. He was given an opportunity to visit the Buffalo and Slough Creek ranches and obtained some excellent photographs of the park wild life.

In view of the fine weather which the park has been enjoying quite a number of people from adjoining communities have come up to the park over the week-ends to see the animals.

900 - Miscellaneous

Hospital and Medical Service: Dr. Paul L. Gailmard, the Resident Physician, reports 24 office visits and 32 home visits during the month.

Post Office: Nothing to report.

Church Services: Rev. L. D. Smith held services on the evening of the 15th and Rev. Clements held Lutheran services on the evening of the 23rd.

-12-

On February 4 we received the sad news that Harry W. Child, President of the Yellowstone Park Hotel & Transportation Companies, and pioneer in the Yellowstone, died at his home in LaJolla, California. Mr. Child had been in extremely poor health for a number of years and while his death did not come as a surprise his passing is deeply mourned by his many friends. His body was cremated in LaJolla and the ashes later removed to Helena, Montana, where he maintained another home.

Miss Mary Scott, another Yellowstone pioneer, who has served in the park for more than thirty years with the Yellowstone Park Hotel Company, operating their laundry at Mammoth, passed away just one week prior to Mr. Child's death. Miss Scott was greatly loved by all those who knew her and she left many friends in this vicinity.

On February 23 Messrs. Pilger, Link and Welcome, of Gardiner, called upon the Acting Superintendent to discuss matters pertaining to the campground in Gardiner just outside the north line fence. These gentlemen represented the citizens of Gardiner and agreed that the campground should be removed. They advised that they expected to do away with the campground at its present location, where it is truly an eye-sore, and that the comfort station will be removed as soon as it is possible to arrange for its sale. They requested us to put up "No Camping",signs which we agreed to do.

Very truly yours,

Guy D. Edwards

Guy D. Edwards
Acting Superintendent.

AMG

Very truly yours,

Mr. A. Edwards
Acting Superintendent.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

10-157
(July, 1929)

TRAVEL REPORT

YELLOWSTONE National Park for the month of FEBRUARY

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year	
					Number	Percent
PRIVATE TRANSPORTATION:						
Cars first entry,	138	1680	26	1276	404	31
Cars reentry,		104		124	-20	-16
Motorcycles,		1				100
Total motor vehicles,	138	1785	26	1400	385	27
Persons entering via motor vehicles,	417	5264	49	3984	1280	32
Persons entering via other private transportation,						
Total persons entering via private transportation,	417	5264	49	3984	1280	32
OTHER TRANSPORTATION:						
Persons entering via stages,						
Persons entering via trains,						
Persons entering otherwise,						
Total other transportation,						
GRAND TOTAL ALL VISITORS,	417	5264	49	3984	1280	32

	This Year	Last Year	Increase	
			Number	Percent
Automobiles in public camps during month,				
Campers in public camps during month,				

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

10-137
(July, 1929)

TRAVEL REPORT

National Park for the month of

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year Number	Percent
PRIVATE TRANSPORTATION:						
Cars first entry.						
Cars reentry.						
Motorcycles.						
Total motor vehicles.						
Persons entering via motor vehicles.						
Persons entering via other private transportation.						
Total persons entering via private transportation.						
OTHER TRANSPORTATION:						
Persons entering via stages.						
Persons entering via trains						
Persons entering otherwise.						
Total other transportation:						
GRAND TOTAL ALL VISITORS.						

Automobiles in public camps during month
Persons in public camps during month

UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

STATUS OF AUTHORIZED PROJECTS

YELLOWSTONE National Park for the Month of FEBRUARY, 1931.

Description of Projects	Percent Constructed To Date	Percent Constructed This Month	Percent Constructed Last Month	Probable Date Completion

No change in projects during the month.

UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

Monthly Report for the Month of _____, 19__.

Description of Project	Percent Completed To Date	Percent Completed This Month	Percent Completed Last Month	Probable Date of Completion

No change in projects during the month.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF PERSONNEL

YELLOWSTONE National Park for the month of FEBRUARY

	This Month	This Month Last Year
Number of employees beginning of month,	69	76
Number of additions,	2	0
Total,	71	76
Number of separations,	0	1
Number of employees close of month,	71	75
Number of promotions during month	0	0
Aggregate amount of annual leave taken,	22	46½
Aggregate amount of sick leave taken,	29	26
Aggregate amount of leave without pay,	0	24½

10-159

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

STATUS OF PERSONNEL

_____ National Park for the month of _____

	This Month	This Month Last Year
Number of employees beginning of month	84	79
Number of additions	2	0
Total	72	79
Number of separations	0	1
Number of employees close of month	72	78
Number of promotions during month	0	1
Aggregate amount of annual leave taken	88	101
Aggregate amount of sick leave taken	72	78
Aggregate amount of leave without pay	0	1/2

10-160

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

YELLOWSTONE National Park for the Month of FEBRUARY, 1931.

	This Year	Last Year
Park revenue on hand beginning of month,	None	None
Received,	527.25	34.32
Total,	527.25	34.32
Remitted,	527.25	34.32
On hand close of month,	None	None

Park revenues received this year to date,	$ 247,696.60
Park revenues received last year to date,	289,716.20
~~Increase~~ Decrease,	42,018.60
Per cent of ~~increase~~ decrease,	.15

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF PARK REVENUES

National Park for the Month of _____, 19__.

	This Year	Last Year
k revenue on hand beginning of month,		
ceived,		
Total,		
aid		
hand close of month		

---

k revenues received this year to date, ... $ _____

k revenues received last year to date . . . . . _____

Increase, ... _____

Per cent of increase, ... _____

0-162

UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

REPORT OF TELEPHONE AND TELEGRAPH BUSINESS

YELLOWSTONE National Park for the Month of FEBRUARY

	This Month	This Month Last Year	Increase	Percent Increase
OCAL BUSINESS				
iles of circuit maintained	528	528		
o. of telephones connected	177	162	15	.093
o. of measured service calls				
o. of other local calls.				
otal No. of local calls.	3188	2645	543	.21
eak load in calls per day.	168	137	31	.22
eceipts from measured service calls.				
eceipts from coin boxes.				
eceipts from telephone rental.				
TOTAL RECEIPTS				
ONG DISTANCE BUSINESS				
o. Outbound calls.	57	43	14	.32
o. Inbound calls	47	56	-9	-.16
TOTAL LONG DISTANCE CALLS				
eak load in calls per day				
eceipts from Long Distance business.				
ELEGRAPH BUSINESS				
ssages via Western Union				
ssages via				
TOTAL MESSAGES				
eceipts from telegraph business.				
o. of money transfer messages.				
o. of money transfer receipts.				
TAL RECEIPTS TELEPHONE & TELEGRAPH DEPT-				

10-163

UNITED STATES

DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

*ELECTRICITY GENERATED, SOLD, USED, ETC.

YELLOWSTONE National Park for the Month of FEBRUARY, 1931.

	This Month	This Travel Year To Date	This Month Last Year	Last Travel Year To Date	Increase for Travel Year Number	Increase for Travel Year Percent
Current generated,	49090.0	541382.0	54380.0	538420.0	2962.0	.05
Sold to park operators,	692.1	61219.8	255.4	64509.9	-3290.1	-.05
Sold to others,						
Furnished to other Governmental agencies,						
Used by National Park Service, lost in transit, etc.,	48397.9	480163.2	54024.6	463910.1	16253.1	.04
Total current generated,	49090.0	541382.0	54380.0	538420.0	16253.1	.03

Amount receivable from the sale of electricity, $ 34.60

* Indicated by K. W. H.

Buffalo on winter feed ground at Buffalo Ranch. Some 300 buffalo are being fed each day on these feeding grounds.

Elk on winter feed ground at Upper Slough Creek. Several hundred of these animals get their daily rations at this feeding point.

This scene shows a car at the buffalo feeding grounds in February. This is the first year it has been possible for a car to get this far in February. The road to the Buffalo Ranch was open practically all month. This scene is about 4 miles from the Buffalo Ranch where it is not even possible to drive a car during the summer season. The trampling down of the snow by buffalo on their winter feed ground has made it possible to drive a car this far.

1030—Met'l.

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

MONTHLY METEOROLOGICAL SUMMARY.

on, Yellowstone Park, Wyo. ; month, February , 19 31

Temperature. (Degrees Fahrenheit.) Max.	Min.	Mean.	Precipitation. (In inches and hundredths.)	Character of day.	Per cent of Possible Sunshine
39	10	24	0	Clear	100
43	14	28	0	Clear	100
41	14	28	0	Pt.Cldy.	79
45	20	32	0	Pt.Cldy,	63
38	25	32	T.	Cloudy	9
32	17	24	.04	Pt.Cldy.	74
33	10	22	T.	Clear	100
28	2	15	0	Clear	100
35	12	24	0	Pt.Cldy.	69
33	19	26	T.	Cloudy	44
34	21	28	.01	Cloudy	12
33	10	22	.01	Clear	81
38	2	20	0	Clear	100
42	12	27	0	Clear	60
40	26	33	T.	Cloudy	21
35	21	28	T.	Pt.Cldy.	38
28	18	23	T.	Cloudy	0
35	26	30	T.	Cloudy	6
39	27	33	.05	Cloudy	7
31	20	26	.02	Cloudy	21
30	12	21	0	Clear	82
39	4	22	0	Clear	100
44	11	28	T.	Pt.Cldy.	84
38	14	26	0	Clear	100
39	8	24	.05	Pt.Cldy.	72
27	12	20	.05	Pt.Cldy.	68
33	14	24	.02	Cloudy	55
34	6	20	0	Pt.Cldy.	93
5.9	14.5	25.2	Total. 0.25		62

ATMOSPHERIC PRESSURE.

(Reduced to sea level; inches and hundredths.)

Mean 30.173 ; highest 30.65, date 3
lowest 29.67, date 6

TEMPERATURE.

Highest 45, date 4 ; lowest 2, date 8
Greatest daily range 36, date 1
Least daily range 9, date 1

MEAN FOR THIS MONTH IN—

1871	82	93	16	04	24	15	26	26	27
1872	83	94	12	05	17	16	24	27	25
1873	84	95	19	06	24	17	2[illegible]	28	20
1874	85	96	25	07	27	18	10	29	14
1875	86	97	20	08	23	19	19	30	23
1876	87	14	98	25	09	21	20	21	31	25
1877	88	27	99	11	10	15	21	24	32	
1878	89	20	00	...	11	15	22	15	33	
1879	90	18	01	18	12	22	23	15	34	
1880	91	14	02	27	13	10	24	23	35	
1881	92	24	03	15	14	2[illegible]	25	38	36	

Normal for this month 19.7
Absolute maximum for this month for 44 years 51
Absolute minimum for this month for 45 years -36
Average daily excess (+) or deficiency (−) of this month as compared with the normal +5.5
Accumulated excess (+) or deficiency (−) since January 1 +324
Average daily excess (+) or deficiency (−) since January 1 +5.[illegible]

PRECIPITATION.

Total this month 0.25; snowfall 8.1
Greatest precipitation in 24 hours 0.10, date 25-26
Greatest 24-hour snowfall 2.5, date 19-20, 25
Snow on the ground at end of month 7.1

TOTAL PRECIPITATION THIS MONTH IN—

1871	82	93	0.79	04	1.50	15	0.59	26	1.05
1872	83	94	1.12	05	0.60	16	0.59	27	0.28
1873	84	95	0.54	06	1.84	17	1.85	28	0.57
1874	85	96	2.07	07	0.58	18	2.05	29	0.77
1875	86	97	0.80	08	1.22	19	1.34	30	0.39
1876	87	4.65	08	1.21	09	0.05	20	1.03	31	0.25
1877	88	2.02	09	3.40	10	1.61	21	0.32	32	
1878	89	1.93	00	1.35	11	1.10	22	1.84	33	
1879	90	6.65	01	0.72	12	0.43	23	0.59	34	
1880	91	2.79	02	0.61	13	0.52	24	0.77	35	
1881	92	2.10	03	0.25	14	0.78	25	1.29	36	

Normal for this month 1.33
Excess (+) or deficiency (−) of this month as compared with the normal -1.08
Accumulated excess (+) or deficiency (−) since January 1 -2.53

MEAN RELATIVE HUMIDITY (Percentage).

6 a. m., 78.6 ; local noon 54.6 ; 6 p. m. 63.1

WIND.

Prevailing direction Southwest, total movement 4,108 miles; average hourly velocity 6.1 ; maximum velocity (for five minutes) 21 miles per hour, from North on 27
Maximum wind velocity this month since 1928
(By three-cup anemometer) 32-Southwest, 1935

WEATHER.

Number of days, clear 10 ; partly cloudy 9 ; cloudy 9
on which .01 inch, or more, of precipitation occurred 8

MISCELLANEOUS PHENOMENA (dates of).

Auroras 0 ; halos: solar 26, lunar 3, 4, 5, 9
Hail 0 ; sleet 0 ; fog 0
Thunderstorms 0
*Frost: light ..... ; heavy ..... ; killing .....

NOTE.—"T" indicates trace of precipitation.

utumn frosts are not recorded after the occurrence of "killing," except in Florida and along the immediate coast of the Gulf of Mexico.

t relative humidity observed,
35%, at local noon of 25th.

W. T. Lathrop,
Meteorologist, Weather Bureau.

GOVERNMENT PRINTING OFFICE

Form No. 1030—Met'l.

U. S. DEPARTMENT OF AGRICULTURE.

WEATHER BUREAU.

MONTHLY

METEOROLOGICAL SUMMARY.

STATION

.....

.....

MONTH

....., *19*

8—1650 U. S. GOVERNMENT PRINTING OFFICE: 1929

Department of the Interior
National Park Service
Yellowstone National Park
Yellowstone Park, Wyoming

February 27, 1931.

CIRCULAR NO. 1.

Effective Monday, March 2, 1931, and until further notice, the trips of the market wagon to Gardiner will be discontinued. Arrangements have been made with Mr. George Whittaker for his truck to pick up meat, milk and laundry, thus making it unnecessary for us to be put to the expense of running our truck.

Mr. Whittaker's truck will stop at the two meat markets in Gardiner every morning, except Sundays, so that daily service from the markets is now possible, whereas the Government truck ran only three times a week.

Arrangements are being made for the men who supply milk from Gardiner to some of our Mammoth residents to leave same at one of the meat markets so that Mr. Whittaker's truck can pick it up when stopping for the meat orders, thus avoiding additional stops and delay.

Also, Mr. Whittaker's truck will pick up the laundry for Mrs. Darmstadt each Monday morning and it will be brought to Mammoth on Saturdays, as usual. However, the laundry must be taken over to the Commissary each Monday morning, before 9:30 a.m., as it is not possible for the truck to call at the houses for it. Likewise, meat and milk delivered each day by Whittaker's truck will be left at the Commissary and those persons who are to receive same must call at the Commissary for it.

This new arrangement will effect a material saving for the Government and is in line with economy measures being taken to cut down costs.

Guy D. Edwards
Acting Superintendent.